

**III. Please amend the claims by canceling claims 1-12 and adding new claims 13-35 as follows:**

**1.-12. (cancelled)**

**13. (new)** Apparatus for producing a syn-gas comprising:

a mixer for producing a feed stock of vaporized hydrocarbons and water vapor,  
a steam reformer having (a) an inlet interconnected with the mixer into which the feed stock is directed and (b) an outlet for the syn-gas produced therein,

a combustor interconnected with a fuel cell off gas outlet and operatively disposed with respect to the steam reformer to heat the steam reformer,

a fuel cell producing an off gas having and having an outlet for the of gas interconnected with the combustor for directing the flow of off gas from the fuel cell to the combustor,

the steam reformer and combustor being enclosed within the same module, in which (a) multiple flow paths formed by a plurality of longitudinally extending micro channels on a first side of the module comprise the stream reformer and (b) multiple flow paths formed by a plurality of micro channels adjacent to and alternating with the sides of the micro channels of the first side comprise the combustor.

**14. (new)** The apparatus of claim 13 including a conductive separator maintained in a middle section of the module dividing the module into (1) the channels on the first side and (2) the channels alternating with the channels on the first side.

**15. (new)** The apparatus of claim 14 wherein the module includes an upper plate and a lower plate defining an enclosed volume in conjunction with sides and the separator comprises a folded divider having alternating crests and troughs forming the channels, the divider being disposed within the upper plate and the lower plate.

**16. (new)** The apparatus of claim 13 wherein the flow paths formed by the micro channels comprising the combustor include a catalyst.

**17. (new)** The apparatus of claim 13 including at least one additional module interconnected in line with one or more of the combustor and the steam reformer comprising a heat exchanger in which a first fluid flow is introduced into a plurality of micro channels on a first side of the module and a second fluid flow is introduced into a plurality of micro channels formed adjacent to the sides of the micro channels of the first side whereby the channels on the first side alternate with the channels on the second side and heat within fluid flow on one side is transferred to fluid flow in the other side.

**18. (new)** The apparatus of claim 13 or 17 including, in an in line interconnection, one or more of: (a) a start module, (b) a pre heater, (c) a vaporizer, (d) a heat exchanger for cooling the gas from the steam reformer, and (5) a water gas shift reactor.

**19. (new)** Apparatus of claim 18 including a water gas shift reactor connected in line in a circuit for providing a supply of syn gas to power a fuel cell.

**20. (new)** Apparatus of claim 18 wherein the one or more of: (a) a start module, (b) a pre heater, (c) a vaporizer, (d) a heat exchanger for cooling the gas from the steam reformer, and (e) a water gas shift reactor is interconnected in line with one or more of the combustor and the steam reformer and the one or more of: (a) a start module, (b) a pre heater, (c) a vaporizer, (d) a heat exchanger for cooling the gas from the steam reformer, and (e) a water gas shift reactor comprises an enclosed module having two separated sides comprising a heat exchanger in which a first fluid flow is introduced into a plurality of micro channels on a first side of the module and a second fluid flow is introduced into a plurality of micro channels formed adjacent to the sides of the micro channels of the first side whereby the channels on the first side alternate with the channels on the second side and heat within fluid flow on one side is transferred to fluid flow in the other side.

**21. (new)** The apparatus of claim 13 including a tank for storing a quantity of fuel cell off gas, the tank being switchably interconnected with the combustor.

**22. (new)** The apparatus of claim 13 including a start module switchably interconnected with the tank.

**23. (new)** The apparatus of claim 17 wherein an additional module includes an in-line zeolite cracker.

**24. (new)** Apparatus of claim 13 in which the micro channels having a width to depth aspect ratio of from about 1:10 to about 1:100 and fluid flow through the channels is maintained to produce laminar flow.

**25. (new)** Apparatus of claim 17 in which micro channels in an additional module have a width to depth aspect ratio of from about 1:10 to about 1:100 and laminar flow occurs through the channels.

**26. (new)** Apparatus of claim 13 or claim 17 wherein the micro channels are side by side within a module and are defined by a wave shaped folded sheet separator within the module.

**27. (new)** Apparatus of claim 13 wherein the module is divided into separate sections by a thin plate defining the micro channels and on one surface, the plate has an oxidation catalyst, and on the opposite surface, the plate has a steam reforming catalyst.

**28. (new)** Apparatus of claim 13 or claim 17 wherein a flow path includes micro channels formed by a wavy plate and at least one plate surface includes a catalyst thereon selected from the group of one or more of platinum, palladium, cerium oxide, aluminum hydroxide and cuprous oxide.

**29. (new)** Apparatus of claim 13 including a gasoline fuel source interconnected with the mixer wherein the gasoline is vaporized in the mixer.

**30. (new)** Apparatus of claim 13 including a fuel cell and a preferential oxidation reactor is included in line intermediate the steam reformer and the fuel cell.

**31. (new)** A hydrocarbon fueled power source comprising an in line:  
mixer interconnected with a hydrocarbon source and a water source for producing a feed stock of vaporized hydrocarbons and water vapor,  
a steam reformer interconnected with the mixer into which the feed stock is directed,  
a combustor operatively disposed with respect to the steam reformer for generating heat energy from fuel cell off gas to heat the steam reformer,  
a fuel cell having an off gas outlet interconnected with the combustor for directing the flow of off gas from the fuel cell to the combustor, and  
an exit from the steam reformer for directing the syn-gas produced therein to the fuel cell.

**32. (new)** The apparatus of claim 31 wherein the steam reformer and combustor are enclosed within a same module having adjacent sets of micro channels for fluid flow, in which module feed stock from the mixer is introduced into multiple paths flowing through a plurality of longitudinally extending micro channels on a first side of the module comprising the steam reformer, and off gas from the fuel cell is introduced into the module into multiple paths flowing through a plurality of micro channels formed adjacent to and alternating with the sides of the micro channels of the first side comprising the combustor.

**33. (new)** The apparatus of claim 32 including a start module and a tank for storing fuel cell off gas, the tank being switchably interconnected in line with one or more of the start module and the combustor.

**34. (new)** Apparatus of claim 32 including an in line preferential oxidation reactor in advance of the fuel cell.

**35. (new)** Apparatus of claim 32 including a modular processor enclosed by relatively parallel top and bottom plates and the modular processor is divided by a thin wave shaped thermally conductive separator having crests extending from one interior side of one plate and troughs extending to the opposite interior side of the other plate, the separator having (1) an oxidation catalyst on one surface forming micro channels for the combustor and (2) a steam reforming catalyst on the other surface forming micro channels for the steam reformer.

**36. (new)** An power source in accordance with claim 32 or claim 33 or claim 34 or claim 35 wherein fluid flow within micro channels is laminar and scalable increments of a predetermined magnitude of power output from the fuel cell are determined by the design capacity of laminar flow within one or more than one set of micro channels through which the fluid flows.